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1. A programmable batch processing engine for a computer network, comprising:  
a design tool subsystem operable on a first computer that creates a set of specifications in response to user input, the set of specifications defining a template for user-desired processing services to be performed;

6                    wherein the specifications identify processing properties for said  
7    processing services to define the execution of a batch application;  
8                    a specification server subsystem adapted to store said template for  
9    enabling access to said template from the computer network;

10 a processing subsystem adapted to perform processing of the batch  
11 application according to a user defined version of said template; and  
12 a middleware subsystem providing communication of the specifications  
13 from the design tool subsystem to the processing subsystem

12 a middleware subsystem providing communication of the specifications  
13 from the design tool subsystem to the processing subsystem

1                    2.        An engine as in claim 1, wherein the processing subsystem is  
2        implemented using the first computer.

1                    3.        An engine as in claim 1, wherein the processing subsystem is  
2        implemented using a second computer.

1                    4.        An engine as in claim 1, further comprising a second computer,  
2        wherein the specifications are sent from the first computer to the second computer for  
3        storage, and are sent from the second computer to the processing subsystem for  
4        processing.

1                    4.        An engine as in claim 1, further comprising a second computer,  
2        wherein the specifications are sent from the first computer to the second computer for  
3        storage, and are sent from the second computer to the processing subsystem for  
4        processing.

1           5.       An engine as in claim 1, further comprising a network having  
2 database facilities and further comprising a database middleware subsystem adapted to  
3 direct access to the database facilities in accordance with the specifications.

1           6.       An engine as in claim 1, further comprising a network having  
2 input-output facilities and further comprising an input-output middleware subsystem

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3 adapted to direct access to the input-output facilities in accordance with the  
4 specifications.

1 7. An engine as in claim 1, wherein said processing subsystem is  
2 implemented using a second computer adapted to send to the first computer completion  
3 data in response to completion of processing in accordance with the specifications by the  
4 second computer.

1 8. An engine as in claim 1, wherein said processing subsystem is  
2 implemented using a second computer adapted to send to the first computer error data in  
3 response to detection of an error in processing according to the specifications by the  
4 second computer.

1 9. An engine as in claim 6, wherein the input-output middleware  
2 subsystem is adapted to selectively route an input-output data stream to one of a plurality  
3 of input-output devices and to convert the data stream to a format suitable for the selected  
4 one of the plurality of input-output devices

1 10. A data processing method, comprising:  
2 generating a set of specifications defining a template for user-desired  
3 processing services to be performed;  
4 identifying processing properties for said processing services to define the  
5 execution of a batch application;  
6 storing said template on a specifications server, said template thereby  
7 being available to a plurality of users;  
8 sending said template to a processing subsystem for processing the batch  
9 application according to a user defined version of said template; and  
10 sending the results of the processing to one of said plurality of users.

1 11. A method as in claim 10, further comprising directing access to  
2 database facilities in accordance with the specifications by using database middleware.

1 12. A method as in claim 10, further comprising directing access to  
2 input-output facilities in accordance with the specification by using input-output  
3 middleware.

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1 13. A method as in claim 10, further comprising sending completion  
2 data from the processing subsystem in response to completion of processing in  
3 accordance with the specifications by the processing subsystem.

1 14. A method as in claim 10, further comprising sending error data  
2 from the processing subsystem in response to detection of an error in processing in  
3 accordance with the specifications by the processing subsystem.

1 15. A method as in claim 12, further comprising selectively routing, by  
2 the input-output middleware, an input-output data stream to one of a plurality of input-  
3 output devices and converting the data stream to a format suitable thereto.

1 16. A programmable batch processing engine for a processing system  
2 including a plurality of computers connected by a network, comprising:

3 design tool means for creating a set of specifications on one of the  
4 computers defining a template for desired processing services, said specifications  
5 identifying processing properties for said processing services to define the execution of a  
6 batch application;

7 specification means for storing said template on another one of the  
8 computers to provide the plurality of computers with access to said template;

9 processing means responsive to said template for processing said  
10 batch application in accordance with a user defined version of said template on a further  
11 one of the computers; and

12 middleware means for communicating information including said  
13 set of specifications between the plurality of computers.

1 17. An engine according to claim 16, further including database means  
2 for storing data required by said processing means when executing said batch application  
3 on an additional one of the computers.

1 18. An engine according to claim 16, further including output means  
2 responsive to completion data generated by said processing of said batch application for  
3 managing output information on an additional one of the computers.

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- 1                   19.    A method for a processing a batch application on a processing  
2   system including a plurality of computers connected by a network, comprising:  
3                    creating a set of specifications on one of the computers defining a  
4   template for desired processing services;  
5                    identifying processing properties for said processing services to  
6   define the execution of a batch application;  
7                    storing said template on another one of the computers to provide  
8   the plurality of computers with access to said template;  
9                    processing said batch application in accordance with a user defined  
10   version of said template on a further one of the computers; and  
11                   communicating information including said set of specifications  
12   between the plurality of computers.
- 1                   20.    A method according to claim 19, further including storing data  
2   required by said processing means when processing said batch application on an  
3   additional one of the computers.
- 1                   21.    A method according to claim 19, further including managing  
2   output information on an additional one of the computers in response to completion data  
3   generated by said processing of said batch application.